Exhibit D

HM Treasury

UK regulatory approach to cryptoassets and stablecoins:

Consultation and call for evidence

January 2021

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Foreword

In 2018 the government launched a cross-authority Taskforce with the aim of exploring the impact of a rapidly developing cryptoasset market. At the time the Taskforce found that distributed ledger technology (DLT) could have a significant impact across a range of industries, with the potential to deliver real benefits for financial services. It also judged that the cryptoasset market was at an immature stage of development, and that there was limited evidence of the current generation of cryptoassets delivering benefits.

Two years on, the landscape is changing rapidly. So-called stablecoins could pave the way for faster, cheaper payments, making it easier for people to pay for things or store their money. There is also increasing evidence that DLT could have significant benefits for capital markets, potentially fundamentally changing the way they operate.

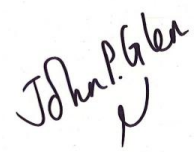
But as will always be the case with a rapidly evolving landscape, these developments could pose a range of risks to consumers and, depending on their uptake, to the stability of the financial system. That is why, at the last Budget, the Chancellor announced that we would be consulting on our response to the challenges and opportunities posed by these innovations.

The UK has long been recognised as a world-leader in financial technology. We are committed to maintaining this position. In practice, that means creating a regulatory environment in which firms can innovate, while crucially maintaining the highest regulatory standards so that people can use new technologies reliably and safely. This is essential for confidence in the financial system more broadly.

This document marks the first stage in our consultative process with industry and stakeholders on our approach. The approach will be informed by evidence of potential take-up and where the most serious risks lie. In doing so, we will take an agile, risk-led approach to regulation, rooted in the principle of 'same risk, same regulatory outcome'.

As the Chancellor recently set out, in the near-term our priority is to ensure the framework supports the safe use of stablecoins. The government will continue to actively monitor new and emerging risks as this market continues to mature. We will stand ready to take further regulatory action to ensure the market is working for the people and businesses who operate in it.

Your responses will help inform the government's approach and ensure the UK's regulatory framework is fit for the future.



John Glen MP, Economic Secretary to the Treasury

Chapter 1

Cryptoassets and the current regulatory landscape

Introduction

1.1 Financial innovation has seen rapid change over recent years, accelerated further by the impact of Covid-19. Cryptoassets, offering new ways to transact, invest and store funds, have been part of this trend and could play an increasingly important role in the future. However, as will always be the case with a rapidly changing technological landscape, they also present new challenges and risks.

1.2 New and emerging forms of cryptoassets, such as stablecoins, which seek to stabilise their value, could be used as widespread means of payment, and potentially deliver improvements in cross-border transactions. At the same time, depending on scale and nature of use, these developments could pose similar financial stability and consumer risks as traditional regulated payment systems.

1.3 At present a large proportion of cryptoassets fall outside or are likely to fall outside the regulatory perimeter. This means they may not be subject to the same consumer protections or safeguards found in other areas of financial services and payments.[1]This may prevent benefits from being realised and exposes consumers to potential harms and, depending on prevalence and value transferred, could pose financial stability and consumer risks.

1.4 In light of this, and reflecting the pace of change, the Treasury's March 2020 Budget outlined two measures as part of the UK's response to cryptoassets:

- consulting on bringing certain cryptoassets into scope of financial promotions regulation to enhance consumer protection; and
- consulting on the broader regulatory approach to cryptoassets, including new challenges from so-called 'stablecoins'

1.5 HM Treasury's consultation on cryptoasset promotions concluded on 26 October. Further detail will be set out in due course.

1.6 This consultation relates to the second commitment. It seeks views on how the UK can ensure its regulatory framework is equipped to harness the benefits of new technologies, supporting innovation and competition, while mitigating risks to consumers and stability. It reflects advice from the UK's

[1] As noted by the Financial Policy Committee (FPC) in the December 2019 Financial Stability Report, "Absent additional regulation, some stablecoins held to be used for payments may not offer similar protections to central bank or commercial bank money held to be used for transactions in traditional payment systems".

joint Cryptoassets Taskforce,[2] which was established in 2018 with a mandate to consider the risks and benefits posed by cryptoassets and distributed ledger technology (DLT) in the UK, and to advise on the appropriate regulatory response.

1.7 The government proposes a staged and proportionate approach to regulation, which is sensitive to risks posed, and responsive to new developments in the market. This document represents the first stage in the consultative process and focuses on establishing a sound regulatory environment for stablecoins, where the government judges that risks and opportunities are most urgent. The government will strategically assess new and emerging risks as this market continues to mature. Future regulation of a potentially wider set of tokens and services will be informed by this analysis, taking into consideration the views of industry, consumers, and regulators.

1.8 The government invites views from a wide range of stakeholders, and particularly firms engaged in cryptoasset activities. If the proposals are adopted, further consultations and guidance will be issued by HM Treasury and relevant UK authorities on implementation, including specific firm requirements (see chapter 4 for further detail on next steps and how to respond).

1.9 The consultation element of the document is structured as follows: chapter 1 sets out the landscape for cryptoassets and their current status in UK regulation; chapter 2 outlines the government's proposed policy approach; chapter 3 sets out specific proposals with respect to cryptoassets used for payments purposes.

1.10 Finally, the call for evidence (chapter 4) seeks stakeholder views on a broader range of questions in relation to cryptoassets used for investment purposes and the use of DLT in financial services. In particular, it asks about the benefits and drawbacks of adopting DLT across financial markets, whether there are obstacles to its adoption, and what further actions government and regulators should consider in this space.

What are cryptoassets?

1.11 A cryptoasset is understood to be a digital representation of value or contractual rights that can be transferred, stored or traded electronically, and which may (though does not necessarily) utilise cryptography, distributed ledger technology or similar technology.[3] The term 'token' is used interchangeably with 'cryptoasset' hereafter.

[2] Membership includes senior representatives from the Bank of England, Financial Conduct Authority and HM Treasury. It is also attended by the Payments Systems Regulator.

[3] This description is largely aligned to definitions used in the government's proposed extension of financial promotions regulation and the UK's Money Laundering and Terrorist Financing regulations (though in contrast, does not specify that DLT and cryptography are necessary features).

1.12 Cryptoassets could fulfil a diverse set of functions, ranging from the trading of digital collectibles to raising capital for new projects. No internationally agreed taxonomy or classification of cryptoassets exists. In 2019 the Financial Conduct Authority (FCA) published its 'Guidance on cryptoassets' which described three broad categories of token in relation to how they fit within existing FCA regulation: e-money tokens, security tokens and unregulated tokens.[4]

- **e-money tokens** meet the definition of electronic money in the Electronic Money Regulations 2011 (EMRs) – broadly, digital payment instruments that store value, can be redeemed at par value, at any time and offer holders a direct claim on the issuer
- **security tokens** have characteristics akin to specified investments, like a share or a debt instrument, as set out in UK legislation.[5] Broadly, these are likely to be tokenised, digital forms of traditional securities. As with e-money tokens, these are already within the UK's regulatory perimeter and therefore subject to FCA regulation
- **unregulated tokens** are neither e-money tokens nor security tokens and include:
  - **utility tokens**: tokens used to buy a service, or access a DLT platform – this could, for example, include access to online cloud storage; and
  - **exchange tokens**: tokens that are primarily used as a means of exchange – this includes widely known cryptoassets such as Bitcoin, Ether and XRP.

1.13 The FCA's guidance also makes clear that many tokens can take a hybrid form and fall into different categories at different points in time – for example, they may initially be used to raise capital, then later be used primarily as a means of exchange.

1.14 High volatility has been a notable characteristic of many widely known exchange tokens, making them less suitable for payment purposes and more attractive to some holders as a high-risk speculative investment. In March 2018 the UK's Financial Policy Committee (FPC) noted that 'their values are currently too volatile to be widely used as a currency or a store of value and, with transaction costs high and settlement times slow, they are an inefficient media of exchange'. The FPC also stated that 'as assets, they establish no claim on any future income streams or collateral. They have no intrinsic value beyond their currently limited potential to be adopted as money in the future, and hence could prove worthless'.

1.15 So-called 'stablecoins' are an evolution of cryptoassets, which seek to minimise volatility in value. Depending on design stablecoins can currently fall into any of the categories set out above – though are currently more likely to be unregulated exchange tokens or e-money tokens. Stablecoins aim

[4] The definitions which underpin current payment systems regulation do not reflect the classification outlined in this section. Instead, systems are defined according to whether the arrangement facilitates the transfer of funds or money (alongside other relevant criteria). This is discussed in more detail in chapter three.

[5] The Financial Services and Markets Act 2000 (Regulated Activities) Order 2001 (RAO)

to maintain stability in their price, typically in relation to stable assets such as fiat currency.[6] Examples include Tether, Paxos or USD coin.

1.16 Design features vary, including how the stablecoin is backed or stabilised (for example, with financial assets or using an algorithm to increase or decrease the supply as needed to maintain a stable price). Other design features include the existence and nature of the token-holder's claims on any assets referenced (e.g. whether or not a holder has legal rights to assets in the reserve) and the population of users able to hold the coin.

1.17 A stablecoin arrangement can consist of a number of different entities in a chain, conducting activities in relation to the issuance of tokens, redemption and stabilisation of the stablecoin, the exchange of the token, and the interaction with users. Opportunities and risks vary depending on these design features, scale of uptake and intended use.

1.18 The FCA's classification of tokens above aimed to provide guidance on which tokens may lie within the FCA's regulatory perimeter and may be subject to its regulation. However different classification methodologies exist, for example by categorising tokens according to their economic function (for example, 'payment tokens and investment tokens'), or other relevant characteristics, such as the rights they confer to users. Classifications have also evolved in line with the changing nature of the market.

1.19 To provide continuity and clarity for market participants, the government proposes to maintain the FCA's broad approach to classification as far as possible. However, to reflect the proposal to bring additional tokens and associated activities into regulation (as set out in chapter 2) the government is considering whether a new category of regulated tokens may be needed – **stable tokens.**

1.20 The regulated category of stable tokens would refer to tokens which stabilise their value by referencing one or more assets, such as fiat currency or a commodity (i.e. those commonly known as stablecoins) and could for that reason more reliably be used as a means of exchange or store of value. The category would also include other forms of tokenised payment and settlement assets, as well as tokenised forms of central bank money. Further detail on tokens in scope is set out in chapter 3.

1.21 In considering this classification, the government and other Cryptoassets Taskforce authorities recognise that whilst cryptoassets are typically underpinned by DLT, stable tokens could be designed using other types of technology. **This classification is therefore agnostic on the technology underpinning its use (e.g. whether it relies on DLT or not).**

1.22 The government recognises that a more granular classification or taxonomy of tokens could have benefits, for example in providing clarity for consumers

[6] The Financial Stability Board (FSB) offers the following differentiation: "Algorithm-based stablecoins: A stablecoin that purports to maintain a stable value via protocols that provide for the increase or decrease of the supply of the stablecoins in response to changes in demand; and Asset-linked stablecoin: A stablecoin that purports to maintain a stable value by referencing physical or financial assets or other crypto-assets." Treatment of algorithm-based tokens is discussed in chapter 3 (3.16)

and businesses as to what type of cryptoasset they are using and the benefits and risks that derive from it. However, given the rapidly evolving market and hybrid (sometimes fluid) nature of many tokens it is also important that any classification is future-proof and sufficiently flexible. The government invites views and responses on this issue.

Box 1.A: Questions for respondents

1 Do you have views on continuing to use a classification that is broadly consistent with existing guidance issued by UK authorities, supplemented with new categories where needed?

2 Do you have views on the proposed new regulated category of 'stable tokens'?

Actions taken by UK authorities and the government

1.23 Since the Cryptoassets Taskforce's 2018 report, the government and UK authorities have taken a number of actions to address risks and support innovation arising from cryptoassets, including (but not limited to):[7]

- communicating minimum policy expectations for stablecoins (BoE, HMT) - these have been communicated through speeches and international reports,[8] including the Financial Stability Board (FSB) report on stablecoin regulation and the G7's global stablecoin working group report which stated that 'no global stablecoin project should begin operation until the legal, regulatory and oversight challenges and risks… are adequately addressed, through appropriate designs and by adhering to regulation that is clear and proportionate to the risks'.[9] They have also been set out by the UK's Financial Policy Committee (see box 3A)[10]
- clarifying the regulatory perimeter (FCA) – this sets out when tokens are likely to be a specified investment under the Financial Services and Markets Act 2000 Regulated Activities Order 2001 (RAO), including those that are a financial instrument under the second Markets in Financial Instruments Directive (MIFID II), or e-money captured under

7 The Ministry of Justice are also funding the Law Commission to carry out a project exploring the legal status of digital assets. Primarily, the Commission will consider the issue of possession, and will provide recommendations for reform to ensure the law is capable of accommodating digital assets. They aim to publish a consultation paper in the first half of 2021.

8 "Reinventing the wheel (with more automation)", speech given by Andrew Bailey at the Brookings Institution virtual event, September 2020; "It's time to talk about money", speech given by Jon Cunliffe at the LSE, February 2020; "Seizing the opportunities from digital finance", speech given by Andy Haldane at TheCityUK, November 2020; "Payments after the COVID crisis" speech given by Christina Segal-Knowles at the LSE, June 2020.

9 G7 Working group report on "Investigating the impact of global stablecoins", CPMI October 2019; and FSB report on "Regulation, Supervision and Oversight of Global Stablecoin Arrangements", October 2020.

10 The Bank of England's August 2020 Financial Stability Report.

the EMRs. Depending on the activity that will be undertaken, FCA authorisation or registration may be required

- implementing the Fifth Anti-Money Laundering Directive (HMT, FCA) – bringing custodian wallets providers and cryptoasset exchange providers into anti-money laundering (AML) and counter-terrorist financing (CTF) regulation
- consulting on bringing a broader subset of cryptoassets within the FCA financial promotions regime (HMT) – if taken forward, this would apply to the promotion of relevant activities in relation to qualifying cryptoassets
- banning the sale, marketing and distribution of derivatives and exchange traded notes that reference certain types of cryptoasset to retail consumers (FCA) – finalised rules come into force 6 January 2021, restricting the sale, marketing and distribution of contracts for difference, futures, options and exchanged-traded notes referencing unregulated, transferable cryptoassets
- consumer warnings about cryptoasset scams (FCA) – as well as providing guidance on how consumers can protect themselves, the FCA also publishes a warning list of known firms running scams. In May 2019, the FCA (in conjunction with Action Fraud) reported that the number of reports of cryptoasset and forex investments scams tripled in 2018/19 (note, however, rising cryptoasset usage during this period)
- support for DLT-based services through the FCA sandbox (FCA) - the FCA continues to support innovative financial services firms through its various initiatives. This includes its Direct Support function, which provides regulatory feedback to firms, and its Regulatory Sandbox, which offers the opportunity to test products in a live environment with FCA oversight. Particularly in the Regulatory Sandbox, DLT has been, and continues to be, the most popular technology tested, with roughly a third of all firms using it to facilitate their products and services. DLT-based solutions tested in the Sandbox include payments, tokenisation of financial instruments, Digital ID and insurance intermediation.

1.24 Building on these actions, the government judges that further regulatory adjustments are required to enable the government and authorities to meet objectives discussed below.

Chapter 2
Policy approach

Objectives, principles and UK initiatives

2.1 HM Treasury and other Cryptoassets Taskforce authorities have identified a series of objectives and principles to guide the government's approach to regulating cryptoassets. These are as follows:

Objectives

Protecting financial stability and market integrity. This includes maintaining the appropriate regulatory standards, ensuring infrastructure is operationally resilient and that safeguards are in place to mitigate any risks to financial stability.

Delivering robust consumer protections. This means ensuring consumers benefit from the same of level of protection they would when other regulated instruments are being used for the same purpose (e.g. payments).

Promoting competition, innovation and supporting UK competitiveness. This means continuing to encourage and support UK fintech firms, and ensuring consumers and businesses have access to a variety of high-quality services and products.

Principles

Maintaining the current division of UK regulator responsibilities as far as possible and applying the principle of 'same risk, same regulatory outcome'. In doing so, the government will remain technology agnostic, while also considering whether the technology used gives rise to additional risks or equally where its use may mitigate risks. This supports the government's desire to ensure a level playing field and reduce opportunities for arbitrage. In practice, it means drawing on existing regulations and requirements insofar as they are applicable, with adjustments or additional requirements where needed to address specific characteristics or risks. The government will also seek to maintain as far as possible the current delineation of UK regulator responsibilities with respect to regulation of activities, including across the Bank of England, FCA and Payments System Regulator (PSR).

Ensuring the approach is proportionate, focussed on where risks and opportunities are most urgent or acute. UK authorities should

avoid applying disproportionate or overly burdensome regulation to entities particularly where end users are aware of risks or the activities do not give rise to financial stability risks. The government is therefore proposing to take an incremental, phased approach to regulatory adjustments (see chapter 3 for further detail on the sequencing of regulatory changes).

Ensuring the approach is agile, able to reflect international discussions and aligned to the future government approach to financial services and payments regulation. Given the cross-border nature of cryptoassets, the UK is committed to working with other jurisdictions and through the international standard-setting bodies to support harmonisation of treatment as far as is feasible. In doing so, the approach should allow for changes to reflect international discussions, including on equivalence where relevant. The government will also seek to ensure that the regulatory approach to cryptoassets coheres with the outcomes of the Payments Landscape Review and Future Regulatory Framework (FRF) Review, which are considering how the regulatory framework for financial services and payments need to adapt to be fit for the future.

2.2 The government recognises that there may be cases in which there is tension between different principles, and they will need to be prioritised or balanced against each other.

Box 2.A: Questions for respondents

3 Do you have views on the government's proposed objectives and principles for cryptoassets regulation? Do you have views on which should be prioritised, or where there may be tension between them?

Overarching approach and related UK initiatives

2.3 The government is proposing an approach to cryptoasset regulation under which firm requirements are designed and implemented by the independent regulators. This would involve the independent regulators using agile powers to issue rules or codes of practice, within a framework of objectives and broader considerations set by HMT and Parliament.

2.4 This has two key benefits: first, cryptoasset models continue to develop and evolve rapidly, and this approach allows the regime to respond to developments. The government wants to ensure the regime can keep pace and adapt as new models or innovations emerge. Second, international work is in progress to develop appropriate global regulatory standards and review existing guidance. For example, international work is underway to assess the application of Principles for Financial Market Infrastructures (PFMIs) to stablecoins. The PFMIs are standards issued by the Bank of International

Settlements' (BIS) Committee on Payments and Market Infrastructures (CPMI) and the International Organization of Securities Commissions (IOSCO). The government wants to ensure it has the flexibility to update regulation to take account of the outcomes of this work.

2.5 In practice, this means that HMT will not seek to specify detailed firm requirements through legislation (and therefore has not done so in this consultation). Instead, the government aims to define the scope of the regulatory perimeter and the objectives and principles applicable under that new regime. Reflecting this, the government is seeking views on those areas only in this consultation. The UK's financial services regulators will consult on detailed firm requirements should the government adopt this approach. This could be subject to enhanced scrutiny requirements to ensure the regulators are appropriately accountable when setting firm requirements.

2.6 In July 2020 the government published a Call for Evidence to support a review of the UK payments landscape. The Payments Landscape Review (PLR) is taking a holistic stocktake of the payments landscape and is considering changes needed to keep pace with new innovations. The government will set out more detail in response to the PLR call for evidence shortly. Changes under consideration through this consultation on cryptoassets are intended to support and align with the government's broader approach to payments through the PLR.

2.7 HM Treasury and the Bank of England are continuing analytical work to evaluate the possible opportunities and risks associated with a UK central bank digital currency (CBDC), and of CBDC initiatives being undertaken elsewhere. The government welcomed the Bank of England's discussion paper in March 2020, as well as its important work with overseas central banks to share valuable experience related to CBDCs. HM Treasury and the Bank of England are now working together to consider next steps. The UK is taking a leading role in exploring this topic to understand the wide-ranging opportunities and challenges it could bring.

2.8 A number of other jurisdictions are considering or have implemented legislative changes to bring cryptoassets and stablecoins into regulation. Approaches across different jurisdictions vary in terms of scope and substance. HMT and UK authorities are closely monitoring developments in this space, including the European Commission's Market in Cryptoassets (MiCA) proposed regulation, which introduces a bespoke regulatory regime and applies it to a wide set of issuers and service providers. Other international approaches include outright bans or amendments to existing legislation (e.g. securities legislation) to bring tokens, and the service providers around them (e.g. exchanges, wallets), into scope.

Box 2.B: **Questions for respondents**

4 Do you agree with the approach outlined, in which the regulatory perimeter, objectives and principles are set by government and HMT, with detailed rules to follow set by the UK's independent regulators?

5 What are your views on the extent to which the UK's approach should align to those in other jurisdictions?

Chapter 3
Expanding the regulatory perimeter

The first phase of legislative changes

3.1 In line with the government's aim to ensure the approach to regulating cryptoassets is proportionate, and to focus on where risks and opportunities are most acute, the government has considered how best to sequence any changes. This chapter sets out the government's proposal and rationale.

3.2 At present, many cryptoassets and unregulated exchange tokens remain highly volatile and cannot be reliably used as a means of payment or store of value. The FCA's latest consumer research suggests that the dominant retail use case for cryptoassets is speculative investment: at present 47% of UK cryptoasset consumers said they bought cryptocurrencies 'as a gamble that could make or lose money' and 89% understood that they are not subject to regulatory protections.[1] This suggests that at present consumer awareness of risks associated with the purchase of cryptoassets is relatively high.

3.3 The size of the UK cryptoassets market is still relatively small, but rapidly growing. The government recognises that many firms engaging in cryptoasset activities are SMEs and start-ups. The government wants to ensure that any approach enables responsible innovation to occur, particularly where risks are well-communicated and understood. The government also wants to ensure that their use does not threaten stability and safeguards are in place to avoid their use in illicit activities.

3.4 The government is therefore considering an approach in which the use of currently unregulated tokens and associated activities primarily used for speculative investment purposes, such as Bitcoin, could initially remain outside the perimeter for conduct and prudential purposes. At the same time, these would be subject to more stringent regulation in relation to consumer communications via the financial promotions regime (if adopted) and AML/CTF regulation. Utility tokens - those used to access a service - would also remain outside the authorisation perimeter.

3.5 At the same time, the use of stablecoins is rising; in June 2020, it was reported that there was more value in transactions using stablecoins than in Bitcoin for the first time.[2] Stablecoins aim to hold their value, typically

[1] Cryptoasset Consumer research 2020, Research Note, 30 June 2020, https://www.fca.org.uk/publication/research/research-note-cryptoasset-consumer-research-2020.pdf

2 https://medium.com/akeo-tech/complete-guide-to-stablecoins-in-2020-1f37b7e11d9d

against a reference asset, meaning they can be more reliably used as a means of exchange or store of value, though they may also be used to facilitate investment or trading activities. This is supported by FCA research which found that stablecoins are the most likely to be used as a means of payment; 27% of stablecoin owners have used them to purchase goods and services.[3]

3.6 The government believes that, if appropriate standards and regulation can be met, certain stablecoins would have the potential to play an important role in retail and cross-border payments (including settlement). This means they would have the potential to deliver benefits of DLT such as speed, efficiency and resilience. Some initiatives may have the potential to support financial inclusion and economic growth both domestically and on a cross-border basis. The Covid-19 pandemic has accelerated the use of digital forms of payments, which could increase the uptake of stablecoins for transactions and remittances in the future.[4]

3.7 The government believes that appropriately designed regulation can promote innovation and industry growth, enabling responsible industry actors to innovate and supporting consumer confidence. However, in the absence of appropriate regulation and oversight, stablecoins could pose a range of risks. These include:

- risks to financial stability and market integrity: where stablecoins are used widely as a means of payment, they may pose risks to financial stability and to the real economy. The ability of individuals and businesses to make and receive payments safely and smoothly with confidence is critical to financial stability. Disruption or outage within the stablecoin chain could lead to consumers being unable to access their money and make payments. Stablecoins could also be used to store value and, by design or use, constitute money-like instruments. Uncertainty about, or large fluctuations in, the value of the asset could give rise to similar risks to financial stability associated with the operational or financial failure of traditional payments systems. Reflecting this risk, in modern economies, private assets that function as money-like instruments are subject to high levels of protections that ensure that consumers can use them with confidence and exchange them seamlessly with other forms of privately issued money in widespread use. Most stablecoin arrangements seek to provide stability via some form of referenced asset such as a commodity or fiat currency. Depending on the nature of the reference assets and how the reserve is held and managed, the ability to provide stability and redeemability could come with additional risks (see Box 3.A for the FPC's principles for stablecoin payments chains)
- risks to consumers: these include, in the first instance, the risk that consumers could lose money through volatility of the value of the

3 https://www.fca.org.uk/publication/research/research-note-cryptoasset-consumer-research-2020.pdf

4 https://www.bis.org/publ/bisbull03.pdf

stablecoin or firm failure. Risks are likely to be increased where consumer protections are limited – for example, due to an absence, uncertainty or failure of a claim for redemption. Consumers may also not understand the product or service they are being offered and consumer data could be lost or misused. Consumer harm may also derive from models being too complex, or excessive prices, fees and charges. In addition, there are risks of fraud, financial crime, cyber-attacks or maladministration, with potential for consumer harm if services are vulnerable to operational and security risks leading to inaccessibility or inefficiencies

- risks to competition: some initiatives could increase competition by challenging the market dominance of incumbent financial institutions. However, due to their ability to scale, and plug into existing online services, some stablecoin arrangements could quickly achieve market dominance, providing a similar service to a regulated service despite not yet not having the same regulatory and compliance obligations. This would create an unlevel playing field.

3.8 The FSB's report 'Addressing the regulatory, supervisory and oversight challenges raised by "global stablecoin" arrangements' sets out ten recommendations. This includes the recommendation that authorities have the necessary tools and powers in place to comprehensively regulate stablecoin arrangements. The FPC has also communicated two regulatory expectations for systemic stablecoins and its views on the need to adjust the UK regulatory framework to support appropriate regulation of these arrangements (see box below). It is within this context, and in light of the risks and opportunities discussed above, that the government judges that there is a strong case for bringing stablecoins into the regulatory perimeter.

3.9 The government therefore proposes to first introduce a regulatory regime for stable tokens used as a means of payment. This would cover firms issuing stable tokens and firms providing services in relation to them, either directly or indirectly to consumers.

3.10 To a longer timetable, the government will consider the case for bringing a broader set of cryptoasset market actors or tokens into an authorisation regime (see chapter 4). UK authorities and the government will continue to actively monitor the market, focusing on how services and products are used and the risks they may pose to consumers. The government will also seek to ensure its approach provides flexibility to enable new activities to be brought into the perimeter in the future in an agile way, subject to appropriate consultation and scrutiny. Should new risks emerge or if presented with evidence of significant consumer harm, the government will take further action.

Box 3.A: Financial Policy Committee (FPC) principles for systemic stablecoin payment chains

In the December 2019 *Financial Stability Report*, the FPC observed that, in the future, digital tokens known as stablecoins might increasingly be used to make payments and that stablecoin-based payment chains pose additional issues for regulation. The FPC set out two expectations for stablecoin-based payment chains:

1: Payment chains that use stablecoins should be regulated to standards equivalent to those applied to traditional payment chains. Firms in stablecoin-based systemic payment chains that are critical to their functioning should be regulated accordingly.

2: Where stablecoins are used in systemic payment chains as money-like instruments they should meet standards equivalent to those expected of commercial bank money in relation to stability of value, robustness of legal claim and the ability to redeem at par in fiat.

Box 3.B: **Questions for respondents**

6 Do you agree with the government's assessment of risks and opportunities?

7 Do you have views on the proposed initial scope of UK cryptoasset regulation as summarised above?

8 Do you agree that this approach best balances the government's stated objectives and principles?

Scope of regulation and requirements

3.11 The activities around tokens used for payments may be similar to existing payment services such as the execution of payment transactions. However, the government also recognises that these tokens may also be used for other purposes than payments. For instance, today many are used as temporary stores of stable value for investors moving funds between cryptoassets without transitioning into fiat money.

3.12 Rules and requirements under the proposed regime would take relevant aspects of the UK's current approach to e-money and payments regulation, drawing on existing rules as far as possible. The main pieces of UK legislation governing payments regulation are the Electronic Money Regulations 2011 and Payments Services Regulations 2017. These provide powers to the FCA and PSR to regulate and supervise firms engaged in relevant payment activities.

3.13 In addition, the Banking Act 2009 and Financial Services (Banking Reform) Act 2013 provide the Bank of England with power and responsibility for regulation of systemically important payment systems and service providers to those payment systems, and the Payments Systems Regulator (PSR) with power and responsibility for regulation of payment systems, respectively. HM Treasury anticipates both organisations would need powers over any system widely used for payments, and that their approaches will follow their respective remits.

3.14 In addition, the approach will draw on broader elements of financial services regulation, for instance in relation to the protection of client assets, as well as specific requirements for stablecoins, such as safeguarding of the stablecoin and the means of accessing the stablecoin wallet with the associated private key.

Tokens in scope

3.15 The government's priority is to ensure that tokens which could reliably be used for retail or wholesale transactions are subject to appropriate regulation. The government considers that at present tokens that maintain a stable value based on their reference assets (e.g. fiat currency) are most likely to maintain a stable value and fulfil this function. Depending on legal structure and specific backing arrangements these tokens may have similar characteristics to e-money, which is subject to comprehensive requirements in UK financial services regulation.

3.16 **The government proposes to seek therefore to ensure that tokens which could be reliably used for retail or wholesale transactions are subject to minimum requirements and protections as part of a UK authorisation regime**. The government is considering whether those tokens deemed out of scope from these minimum requirements should be subject to restrictions with respect to marketing or promotion for use in retail or wholesale payments activity.

3.17 Some tokens may not neatly fall within this category. For example, so-called 'algorithmic stablecoins' seek to maintain a stable value through the use of algorithms to control supply, without any backing by a reference asset. The government judges that these tokens more closely resemble unbacked exchange tokens and may pose similar risks in relation to their ability to maintain stability of value, so may not be suitable for retail or wholesale transactions. For this reason, algorithmic stablecoins are outside the scope of the proposals for stable tokens set out in the remainder of this chapter. The government invites views on this assessment and will consider this position based on responses received.

3.18 For the same reason, the government proposes that security tokens (as defined in chapter 1) should be excluded from the scope of the proposals for stable tokens set out in this chapter. Utility tokens will also likely fall outside the scope of the proposals for stable tokens set out in this chapter.

3.19 Table 3.A sets out the tokens in scope of the government's proposed regime for stable tokens.

Table 3.A: Tokens in scope for proposed regime and payments use

Token type	Definition	In scope of first phase of legislative changes?	Rules applying
Stable tokens: Single-fiat	Value linked to a single fiat currency (GBP, USD, etc.)	Yes	FCA authorisation regime based on payments regulation (see below) Enhanced requirements if systemic thresholds met
Stable tokens: Other asset-linked	Value linked to an asset other than a single fiat currency (e.g. gold or multi-currency)	Yes	FCA authorisation regime (see below) – Specific requirements on backing asset(s) Enhanced requirements if systemic thresholds met[5]
Unregulated exchange tokens	No backing Primarily retail speculative investments or means of exchange. May include algorithmic tokens.	No – but may be subject to regulation in future	[6]
Unregulated utility tokens	Used to access a current or future service (e.g. access to a DLT platform), but may also be exchanged	No – but may be subject to regulation in future	[6]
Security tokens	Meets definition of specified investment under the RAO and is subject to regulation	No – but considering whether changes may be needed to provide clarity to support use in future (see chapter 4)	Subject to existing FCA regulation

[5] Bank regulation of systemic stable token payment systems and service providers to those systems, will be grounded in the FPC's expectations set out in Box 3A. For systemic asset-linked stable tokens this would imply significant capital and prudential requirements and other protections

[6] If taken forward use of tokens would be subject to consumer disclosures via the financial promotions regime. Core entities facilitating their use also subject to AML/CTF regulation.

Actors, activities and requirements

3.20 As set out in chapter 1 a range of market actors can be involved in facilitating the use and issuance of stable tokens. Key participants or entities are likely to include:

- issuers or systems operators, responsible for managing the rulebook of a system, the infrastructure, burning and minting coins (among others)[7]
- cryptoassets exchanges, enabling consumers to exchange tokens for fiat money or other tokens
- wallets, which may provide custody of tokens and/or manage private keys. Along with exchanges, these are often the main consumer interface.

3.21 The government's view is that regulation would apply to the firms undertaking the following functions or activities, either in terms of establishing the rules governing the activities or operating the infrastructure in relation to these activities.

- issuing, creating or destroying asset-linked tokens
  The activity of the token issuer in minting and burning tokens
- issuing, creating or destroying single fiat-linked tokens
  The activity of the token issuer in minting and burning tokens
- value stabilisation and reserve management
  The activity of managing the reserve assets that are backing the value of a stable token and providing custody/trust services for those assets to ensure stabilisation of the stable token
- validation of transactions
  The activity of authorising or verifying the validity of transactions and records
- access
  The activity of providing services or support to facilitate access of participants to the network or underlying infrastructure
- transmission of funds
  The activity of ensuring the correct and final settlement of transactions while limiting counterparty and default risk
- providing custody and administration of a stable token for a third party
  The activity of managing tokens on behalf of owners, including the storage of private keys

[7] In some decentralised models there may not be a central entity responsible for issuing or burning tokens

- executing transactions in stable tokens
  The activity of conducting transactions on behalf of another
- exchanging tokens for fiat money and vice versa
  The activity of purchasing/exchanging a stable token with fiat money.

3.22 These are partly aligned with the stablecoin activities identified by the FSB, adding further granularity and aligning activities with those used under UK law. The government considers that many of these activities bear similarity to currently regulated payment or e-money activities (for example executing payment transactions). However, others do not currently form part of traditional payment chains and may not be captured by analogous rules under existing payments regulation but could still pose risks to consumers and stability. This includes providing custody and administration of the token, a main aspect of which is the storing and protection of the private key.

3.23 Considering the objective to manage the risks of tokens being used as a means of payment whilst supporting innovation and competition, and reflecting the activities outlined above, the government judges that the following high-level requirements would be necessary.

- authorisation requirements with associated threshold conditions
  The requirement to be authorised prior to operating
- prudential requirements, including capital and liquidity requirements, accounting and audit requirements
  Requirements relating to effective management of capital and liquidity, to protect consumers and financial stability
- Requirements for the maintenance and management of a reserve of assets – obligation to have reserve assets underlying the token's value and requirements to ensure the quality and safekeeping on those assets
- orderly failure and insolvency requirements
  Requirements to ensure issuers and service providers are prepared for modified resolution or administration, or insolvency
- safeguarding the token
  Requirements principally on wallets and exchanges to ensure those entities are appropriately protecting users' tokens and the privacy and security of keys to those tokens
- systems, controls, risk management and governance
  Requirements relating to effective overall management of an issuer or service provider
- notification and reporting
  Requirements relating to firms' disclosures to regulators and customers
- record keeping
  Requirements relating to firms' internal record keeping processes

- conduct requirements
  Requirements relating to the rights that firms must provide toward customers
- financial crime requirements
  Requirements relating to proper implementation of anti-money laundering and counter-terrorist financing rules, among others
- outsourcing requirements
  Requirements relating to safe outsourcing of key services to ensure continuous and adequate functioning
- operational resilience, service reliability and continuity requirements
  Requirements to ensure business continuity in the event of physical, electronic, governance or other business failures
- security requirements (including cyber and cloud)
  Requirements relating to safeguards against cyber security risks related to the technology and infrastructure used.

3.24 UK authorities are considering requirements in relation to the reserves held for stable tokens (and related innovations), particularly where they operate at systemic scale. This includes, for example, how to ensure that regulation and requirements are appropriate for the risks taken in the reserve assets where stable tokens are intended for widespread use in retail or wholesale transactions. This also involves exploring what regulation might be necessary to enable issuers of systemic stable tokens to hold reserve assets in central bank accounts, commercial bank deposits or high-quality liquid assets to meet the FPC's expectations. UK authorities will consult in due course on the impact of these options and how these options would be applied across systemic and non-systemic firms.

3.25 As set out in chapter 1, a subsection of tokens already falls within the existing e-money regime (e.g. where, among other criteria within the EMRs, they provide users with a claim on the issuer and funds are redeemable at any time at par value). The government's view is that where such tokens are subject to existing regulation, these requirements should continue to apply.

3.26 In practice, this means that some tokens, where they meet the criteria for e-money, will be subject to e-money regulation and must be authorised by the FCA as such. To avoid scope for arbitrage and avoid confusion for consumers, the government is also considering whether stable tokens that are linked to a single fiat currency should meet the requirements applicable to e-money. Any stable tokens treated as e-money, which have significant potential to become systemic (see criteria below), would likely require enhanced regulation to meet the FPC's stablecoin expectations. The government is considering how to ensure that this can be applied in a manner that provides an appropriate and clear framework to support innovation.

3.27 In line with other regulation, the proposed authorisation regime would also allow for exclusions where, although an activity may fall within scope, the firm conducting that activity would not need to be authorised. This may

occur where the activity does not give rise to the same risks. For instance, services based on stable tokens used within a limited network of service providers (closed loop) or for acquiring a very limited range of goods or services (e.g. store payment cards) could be excluded. A lighter regime is being considered for smaller firms below a certain turnover, also akin to current payments regulation.

Stable token payment systems

3.28 The Payment Systems Regulator (PSR) is an economic regulator that regulates payment systems designated to it by HM Treasury to achieve objectives in relation to protecting interests of users, promoting competition and innovation. A payment system is defined within the Financial Services (Banking Reform) Act 2013 (the FSBRA 2013), as a system that enables persons to make transfers of funds.

3.29 The government judges that stable token arrangements which play a similar function to existing payments systems may be appropriate candidates for regulation by the PSR and is considering whether legislative adjustments are required to clarify this. Designation of a system for regulation by the PSR gives the PSR powers to place requirements or take action on the participants in that system. Participants are defined as system operators, infrastructure providers or payment service providers in relation to that system.

Systemic stable token payment systems

3.30 Where stable token arrangements reach systemic scale, the government judges that existing systemic payments regulation which applies to the system and service providers in relation to the system should also apply. In the UK this is enforced by the Bank of England under powers contained within part 5 of the Banking Act 2009 (the BA 2009), following a recognition decision made by HM Treasury.[8]

3.31 The government judges that a systemic stable token arrangement could be assessed for Bank of England regulation in the same way that current payment systems and service providers are (i.e. when potential disruption could lead to financial stability risks). Criteria under the BA 2009 for systemic payment systems includes consideration of their ability to disrupt the UK financial system and businesses based on current or likely volume and value of transactions, nature of transactions and links to other systems, as well as substitutability and use by the Bank of England in its role as monetary authority.

3.32 The government's proposal is that these criteria should also extend to stable tokens arrangements that perform a retail or wholesale payment system function. This would mean that a stable token with significant potential to be systemic at launch would need to be captured from launch by such

[8] Link to HMT public document on recognition process - https://webarchive.nationalarchives.gov.uk/20130102201246/http://www.hm-treasury.gov.uk/d/bankingact_guidancenote_040809.pdf

regulation. Appropriate triggers for treatment in this manner would include likely user base, likely transaction volumes and likely avenues for acquisition of customers (e.g. through widely used platform).

3.33 Issuers or system operators that reach systemic status, as well as critical service providers as defined under the BA 2009, would be subject to regulation by the Bank of England and enhanced requirements grounded in the PFMIs against which they would be required to produce an annual compliance self-assessment. In line with powers to issue codes of practice and rules within current payments system and service provider legislation, the Bank of England would be given powers to specify enhanced requirements.

3.34 The Bank of England will be required to consult on the proposed supervisory approach and enhanced requirements to be applied to systemic stable token systems and service providers. This will build on the PFMI and be grounded in the FPC's expectations set out in Box 3A. To meet the FPC's expectations, a systemic stable token arrangement would need to provide holders with a robust legal claim, ensure stability of value and enable users to redeem tokens at par into fiat. For asset-linked tokens, this would imply significant capital and prudential requirements and other protections.

3.35 Stable tokens bring together payment system activity, the issuance of a new, money-like asset and the storage of reserve assets. Current regulation for systemic payment systems applies to the recognised payment system operator as well as designated critical service providers in relation to a recognised system – for example information technology services or infrastructure providers.

3.36 The government's view is that it is possible other service providers or core entities that form part of a stable token chain could pose systemic risks (e.g. wallets). It is therefore considering, for stable token arrangements, whether Bank of England systemic regulation grounded in the PFMIs and FPC expectations should also apply to service providers or entities within a chain where these pose systemic risks. For example, the government judges that certain wallets used to safeguard or exchange customer funds could pose systemic risks if used at scale because of the potential wider impact of any disruption (e.g. of consumers' ability to withdraw funds) and their potential role in fulfilling critical functions in the chain.

3.37 In applying this assessment approach, the bar for systemic importance and Bank regulation would remain high, as it is for payment systems and service providers to those systems at present. Within a competitive and diverse landscape, it is not clear that many service providers will attain systemic importance to require such enhanced regulation. However, the dynamic and nascent nature of the market requires ensuring the adequate powers are in place, subject to the recognition process, should they be needed now or in the future.

Location requirements

3.38 For firms carrying on payment services, the requirement to be authorised or regulated by the FCA applies in relation to activities that are carried on by way of regular occupation of business activity in the UK. Whereas, powers in relation to recognised payment systems under BA2009 apply on an extra-territorial basis. **Due to the digital, decentralised and cross-border nature of stable tokens, the government and UK authorities are considering whether firms actively marketing to UK consumers should be required to have a UK establishment and be authorised in the UK.** Options include: requiring UK presence and UK authorisation for stable token issuers, system operators and service providers when marketed in the UK; defining the activity conducted in the UK and determining whether UK authorisation is required as a result; or no location requirements.

3.39 The government and UK authorities are also considering the case for location requirements for systemic stable token arrangements under BA2009.

Box 3.C: Questions for respondents

9 Do you agree that the activities and functions outlined above are sufficient to capture the activities that should fall within the scope of regulation?

10 Do you agree that the government should primarily use existing payments regulations as the basis of the requirements for a new stable token regime, applying enhanced requirements where appropriate on the basis of mitigating relevant risks? What other existing legislation and specific requirements should also be considered?

11 Do you agree with the high-level requirements outlined? Do you consider that any additional requirements are needed?

12 Do you have views on whether single-fiat tokens should be required to meet the requirements of e-money under the EMRs, with possible adaptation and additional requirements where needed?

13 Do you have views on whether exclusions to the authorisation regime are needed in relation to the stable tokens regime, in light of the government's objectives? If so, which activities do you think should be excluded?

14 What are your views on the appropriate classification and treatment of (unbacked) tokens that seek to maintain a stable value through the use of algorithms?

15 Do you agree Part 5 of the Banking Act should apply to systems that facilitate the transfer of new types of stable tokens?

16 Do you have views on potentially extending Bank of England regulation of wider service providers in the stable token chain, where systemic?

17 Do you agree that Part 5 of FSBRA 2013 should apply to payment systems facilitating the transfer of new types of stable tokens?

18 Do you have views on location and legal entity requirements?

Authorisations regime for token issuers and service providers

3.40 As set out, the government's proposal is the FCA would authorise and supervise firms – both stable token issuers and relevant service providers – where they carry on certain regulated activities, an indicative list of which is set out below. The table also indicates where firms undertaking certain activities may be subject to BoE and/or PSR regulation.

Table 3.B: Anticipated activities, entities and requirements

			Anticipated regulator roles		
Activity (in relation to in-scope tokens)	Entities likely to be conducting activity	Requirements likely to apply	FCA regulated?	PSR regulated?	Bank regulated?
Issuing, creating or destroying tokens	Token issuers	Authorisation Prudential requirements Requirements for the maintenance and management of a reserve of assets Orderly failure and insolvency Systems, controls, risk management and governance Reporting (including notifications requirements, e.g. if value of reserve falls below par) and record keeping Conduct requirements Outsourcing requirements Operational resilience, service reliability Security requirements Financial crime requirements If systemic, PFMIs would apply with some modifications and significant requirements to address specific characteristics and risks	Yes	If activity meets PSR designation criteria	If activity meets Bank recognition criteria

Issuing, creating or destroying single fiat tokens	Token issuers	Authorisation PSRs and EMRs would likely apply – with modifications of requirements and additional requirements to address specific characteristics and possible different risks If systemic, PFMIs would apply with some modifications and possible additional requirements to address specific characteristics and risks	Yes	If activity meets PSR designation criteria	If activity meets Bank recognition criteria
Value stabilisation and reserve management	Token issuers or payment system operators	No authorisation regime If systemic, PFMIs would apply with some modifications and possible additional requirements to address specific characteristics and possible different risks	Yes (as a requirement for the issuer)	If activity meets PSR designation criteria	If activity meets Bank recognition criteria
Validation of transactions	Depends on design, but may include token issuers	No authorisation regime If systemic, PFMIs would apply with some modifications and possible additional requirements to address specific characteristics and possible different risks	No	If activity meets PSR designation criteria	If undertaken by asset issuers,system operators, or specified service providers, and if activity meets Bank recognition criteria
Access	Providers focused on	No authorisation regime	No	PSR has powers with	If activity meets Bank

	facilitating access to network or technology	If systemic, PFMIs would apply with some modifications and possible additional requirements to address specific characteristics and possible different risks Fair and open access to potential participants: criteria are proportionate, objective, non-discriminatory		regard to system access	recognition criteria
Transmission of funds	Designated dealers, payment system operators, wallets	No authorisation regime If systemic, PFMIs would apply with some modifications and possible additional requirements to address specific characteristics and possible different risks	No	If activity meets PSR designation criteria	If activity meets Bank recognition criteria
Providing custody and admin of token for a third party	Wallets, some exchanges where applicable	Authorisation Prudential requirements Orderly failure and insolvency Safeguarding the stablecoin and key Safeguarding of customer funds / custody of client assets Systems, controls, risk management and governance Reporting and record keeping Conduct requirements Financial crime requirements Outsourcing requirements Security requirements	Yes	If activity meets PSR designation criteria	Potential

		If systemic, PFMIs would apply with some modifications and possible additional requirements to address specific characteristics and possible different risks			
Executing transactions in a token – making payments	Token issuers, wallets and exchanges	As above	Yes	If activity meets PSR designation criteria	Potential
Exchanging tokens for fiat and vice versa	Token issuers, wallets and exchanges	As above	Yes	If activity meets PSR designation criteria	Potential

HM Treasury expects financial crime including anti money laundering requirements will apply to all wallets and issuers and that these will also have to register under AML registration for their activities in relation to all types of cryptoassets. The AML registration may not cover issuers; we would expect issuers to be subject to AML requirements in line with other regulated entities.

Chapter 4

Call for evidence on investment and wholesale uses

Security Tokens

4.1 The use of tokens to facilitate securities transactions is an important development for the financial sector. The representation of traditional securities, such as equities or debt, on a distributed ledger (the 'tokenisation' of assets) could have substantial implications for the way assets are traded or capital is raised. Security tokens that exist and are traded exclusively on the distributed ledger (and are therefore 'digitally native') are also playing an increasing role across markets. Existing examples of security tokens include Santander's 'blockchain bond' issued on the Ethereum blockchain.[1]

4.2 Security tokens can sometimes be distributed through initial coin offerings (ICOs) which enable businesses to raise capital for their projects, by issuing digital tokens in exchange for fiat currencies or other cryptoassets, e.g. Bitcoin or Ether. ICOs are viewed as high risk,[2] but where used safely, could be used as an alternative funding tool for new and innovative business models, products and services, while the use of DLT could make the capital raising process more streamlined, faster and cheaper and facilitate global interconnectedness of markets.

4.3 As part of the FCA's Regulatory Sandbox programme, firms have compliantly issued equities, bonds and structured products on the Ethereum blockchain. These small-scale tests showed the potential of DLT-based systems to deliver securities issuances more efficiently; faster and cheaper when compared to traditional issuances, while increasing the transparency of ownership.

4.4 However, the government recognises that existing regimes were not originally intended to support the use of cryptoassets or DLT-based innovations. It would therefore like to understand what changes may be necessary to remove obstacles and enable the use of these new technologies.

4.5 For instance, there is no legal definition of a security token or tokenised security in the UK. The FCA has described them as providing rights and obligations akin to specified investments, like a share or a debt instrument or units in a collective investment scheme – this would mean that in the UK

1 https://www.santander.com/en/press-room/press-releases/santander-launches-the-first-end-to-end-blockchain-bond

2 https://www.fca.org.uk/news/statements/initial-coin-offerings

such tokens meet the relevant definitions in the RAO. If a token is negotiable on the capital markets (for example because it can be transferred from one person to another who then acquires legal title of the token), then it might be considered a transferable security under this framework.

4.6 The government would like to understand whether further legal clarification is required in the future, or whether the application of existing rules under this regime leads to specific obstacles, costs or barriers for participants.

Box 4.A: Questions for respondents

19 Are there any areas of existing regulation where clarification or amendments are needed to support the use of security tokens?

DLT-based financial market infrastructures

4.7 Distributed ledger technology (DLT) could potentially transform financial markets and the infrastructures that underpin them. The representation of assets on distributed ledgers could in theory deliver benefits such as more efficiency, improved liquidity, enhanced transparency and greater security. It may fundamentally alter the structure of the current market ecosystem, which is currently characterised by several different financial market infrastructures (FMIs) and intermediaries performing separate functions, from trade management processes, through to clearing and settlement, and on to post settlement activities such as custody and asset servicing.[3]

4.8 However, the adoption of DLT across financial markets may face a number of challenges and hurdles. The ability to overcome these challenges, and the way in which they are overcome, could be important in determining whether the benefits of DLT will be realised. This section of the consultation therefore aims to gather views about the potential of DLT to transform financial markets, what steps would need to be taken to fully realise this potential, and what barriers stand in the way of adoption.

4.9 In the first instance, the government wants to understand more about what the benefits of DLT may be to financial markets. In particular, the government would like to understand what the specific advantages are to adopting DLT in different parts of market value chains including whether DLT could lead to more efficient trading, clearing or settlement, and if so what the nature of the efficiencies realised would be (for example reduced settlement times or lower costs). The government would also appreciate views on where the benefits of DLT may go beyond efficiency and cost-

[3] In this paper the term 'FMI' includes multilateral systems across all parts of the market value chain, including at the trading level as well as clearing and settlement.

effectiveness, particularly to security and transparency, and where it may spur innovation by changing the way markets operate.

4.10 Conversely, the government also invites industry views on the possible drawbacks of DLT if adopted across financial markets. For example, the creation of new intermediaries could create greater fragmentation within the existing FMI ecosystem, particularly if new DLT FMIs are not interoperable with each other or existing FMIs. This could potentially result in more complexity, less efficiency, and a reduction in the ability of supervisors to ensure regulatory compliance. It is possible that DLT FMIs make markets less, rather than more, transparent to market participants, depending on how they are specified.

4.11 Views would also be welcome regarding areas where the benefits of DLT for FMIs may be overstated- for example, it may be that incremental reform of existing market practices, or the further development of existing technology, will improve the performance of existing FMIs, rather than the adoption of DLT. Consideration should also be given to whether the optimal route is for increased take-up of DLT by existing FMIs, rather than DLT solely being utilised by new entrants.

4.12 The government is also seeking feedback regarding what regulatory or legal barriers exist that currently limit the adoption of DLT in UK financial markets. In particular, the government would like views as to whether existing UK legislation is adequate for capturing DLT-based FMIs, and whether the current legislation or regulation makes creating and operating a DLT excessively burdensome. It would be useful to hear feedback regarding how DLT will interact with existing rules around transfer of title, settlement finality, financial collateral, shareholder rights and corporate actions, and whether there is a need to optimise legislation across these areas to better accommodate DLT FMIs while safeguarding stability and security.

4.13 More broadly, industry views around the wider incentives and challenges in adopting DLT across financial markets and the potential solutions to these, would be valuable. Feedback could cover technical challenges, but also issues around industry incentives to implement DLT in a way that benefits UK markets collectively.

4.14 It is possible that a degree of coordination/collective action by market participants is required to achieve the benefits of DLT FMIs, while ensuring that innovation is not stifled. An example of where this may be needed is to ensure DLT FMIs are interoperable either with each other or with existing FMIs, so as to avoid or mitigate the new layers of intermediation and fragmentation that may otherwise be created, as noted above. The outcome in this instance could be the development of a basic set of standards that ensure the interoperability of DLT FMIs. Feedback to this consultation could consider other areas where it may be useful for the market to develop standards (such as cybersecurity, transparency, confidentiality and governance arrangements), as well as other approaches for overcoming barriers to adoption across markets.

4.15 The government is also seeking views over where government or regulator intervention may be useful. For instance, the government would welcome

industry feedback regarding initiatives that could be taken forward for trialling or testing DLT FMIs. This could entail making use of existing schemes, such as the FCA Sandbox, or developing new propositions, such as an initiative for testing the operation of a DLT FMI in the market. The government would have to carefully consider the impact of any proposals given the systemic importance of FMIs to the financial system and would need to work closely with the Bank of England given their role in regulating and supervising FMIs.

4.16 As noted above, market coordination may be required to deliver the benefits of DLT in the FMI space. The government would therefore appreciate views on whether regulators or government have a role to play in convening market participants. Alternatively, respondents may feel that any initiatives should be best left to the market. Given FMIs are important for international markets, specific UK rules could create conflicts with rules in other jurisdictions, meaning it may be preferable to take forward rules at global level first before adoption in the UK.

Box 4.B: Box title

20 What, specifically, are the potential benefits of the adoption of DLT by FMIs? What could be the benefits for trading, clearing and settlement?

21 What are the potential drawbacks of DLT for wholesale markets and FMIs?

22 Is UK regulation or legislation fit for purpose in terms of the adoption of DLT in wholesale markets and FMIs in the UK? How can FMI regulation/legislation by optimised for DLT?

23 What are the wider industry incentives or obstacles to the adoption of DLT in wholesale markets and FMIs in the UK?

24 If market coordination is required to deliver the benefits of DLT, what form could it take?

25 Would common standards, for example on interoperability, transparency/confidentiality, security or governance, help drive the uptake of DLT/new technology in financial markets? Where would common standards be most beneficial?

26 What should the UK government and regulators be doing to help facilitate the adoption of DLT/new technology across financial markets/FMIs?

Other unregulated tokens and new developments in the market

4.17 As discussed in chapter 1, the government notes that the primary use-case for many unregulated tokens, typically referred to as exchange tokens (including Bitcoin and Ether) is for speculative investment purposes.[4] Unregulated tokens are often traded on exchanges which operate like trading platforms allowing users to exchange one token for another or convert back into fiat.

4.18 The retail investment use of these tokens raises potential financial consumer, investment protection and market conduct issues, as the Cryptoassets Taskforce acknowledged in its 2018 final report. However, public understanding of the risks involved in investing in this space is improving (see FCA 2020 Research Note on cryptoassets). For instance, 89% of consumers correctly understood that they did not have regulatory protections. Furthermore, the market remains comparatively small in relation to the broader financial services market – the FCA has estimated the current base of cryptoasset users in the UK to include less than 4% of the population.

4.19 The government recently consulted on a measure designed to address risks around consumer understanding of cryptoassets, proposing to bring certain cryptoassets into the scope of financial promotions regulations. This would hold cryptoasset promotions to the same standards as other financial promotions, ensuring that they are fair, clear and not misleading. If taken forward, this measure is intended to address key risks with respect to consumer awareness, reflecting findings that adverts are important components of the consumer journey with the ability to influence consumer sentiment.

4.20 Decentralised Finance (DeFi) is a relatively new and fast-growing sector within the cryptocurrency landscape. DeFi platforms take the form of decentralised apps which are not controlled by a central authority, commonly known as/referred to as 'dapps'. These dapps use a series of smart contracts to automate transactions, facilitating peer-to-peer lending, borrowing or trading with financial instruments on a permissionless network including, for example, platforms that enable users to earn interest on their tokens by connecting token holders to other borrowers.

4.21 At present, certain DeFi activities and tokens used to facilitate them, could like other cryptoasset-related activities more broadly, fall within the regulatory perimeter (see FCA cryptoasset guidance). The government does not currently propose to bring specific DeFi activities into the scope of regulation, but recognises the increasingly important role played by DeFi. It will therefore keep this space under review and monitor developments closely. The government is keen to hear views on the possible benefits and risks posed by DeFi and whether these developments should be brought into the regulatory perimeter in the future. The government is also keen to understand views in relation to the practicalities of any future regulation given their decentralised nature, and lack of financial intermediaries.

[4] According to FCA research 47% UK consumers reported that they bought cryptoassets as a gamble that could make or lose money. The second most popular reason given was that cryptoassets formed part of a wider investment portfolio (25%).

Box 4.C: Questions for respondents

27 Do you see value in the government capturing tokens typically used by retail consumers as a form of speculative investment under the regulatory perimeter in the future?

28 Do you have any views on how the government should bring these tokens into the regulatory perimeter in the future?

29 What are the risks and opportunities you see in relation to DeFi?

30 Do you have any evidence of risks to consumers when using tokens as a form of speculative investment or through DeFi that may be of interest to the government and UK authorities?

Chapter 5

Responding to this consultation and call for evidence

Responding to this consultation and call for evidence

5.1 This consultation will close on 21 March 2021. We are inviting stakeholders to provide responses to the questions set out above, share views on our proposed future approach, or to provide views on any issue relevant to the UK's approach to cryptoassets and DLT.

Who should respond?

Responses are welcome from all stakeholders, including:

Cryptoassets firms, technology firms and financial institutions

Other businesses impacted by cryptoasset regulation

Trade associations and representative bodies

Academics and legal firms

Consumer groups

How to submit responses

Please submit your responses to cryptoasset.consultation@hmtreasury.gov.uk, or post to:

Cryptoassets and stablecoin consultation

Payments and Fintech

HM Treasury

1 Horse Guards Road

SW1A 2HQ

More information on how HM Treasury will use your personal data for the purposes of this consultation is available on the webpage.

Next steps

5.2 This first consultation sets out a proposed policy approach to bringing stable tokens into the UK regulatory perimeter, focusing on responsibilities of financial services regulators. The government will carefully consider the responses received and use these to inform a response, setting out more detail on how the proposed approach may be implemented in law. Further

technical consultations will be issue by UK authorities on specific firm rules. An illustrative timeline of recent and ongoing workstreams is set out in the annex.

5.3 As part of this consultation, the government will also undertake a programme of stakeholder engagement. This will maximise opportunities for stakeholders to share their views with the government.

HM Treasury contacts

This document can be downloaded from www.gov.uk

If you require this information in an alternative format or have general enquiries about HM Treasury and its work, contact:

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Glossary of terms[1]

Cryptoassets	A broad term used to describe digital tokens often issued on a DLT system. These can vary fundamentally in their economic features and characteristics, from permission-less cryptoassets like bitcoin, to asset backed stablecoins. Several definitions exist, which focus on characteristics including use of cryptography or DLT, the ability to transfer the token, or store or trade it electronically. Chapter one of the consultation sets out the different types of cryptoassets, and their key characteristics.
Cryptoasset Wallets	A cryptoasset wallet typically allows the storage and management of cryptoassets and cryptographic keys (mainly private keys which correspond to public keys), in order to enable the user to store and transfer cryptoassets. However, wallet designs and the precise role of the wallet service provider do vary. There are three types of cryptoasset wallets, according to their custody model: The secure storage of cryptographic keys, required to unlock and transfer funds. There are three types of custody: • custodial: where a service provider is in full control of keys and funds, generally in the interest of customer convenience when transacting (sometimes known as a 'hot' wallet). • non-custodial: where a customer is in full control of keys and unilaterally moves cryptoassets (sometimes known as a 'cold' wallet). • hybrid: where approval of both the service provider and the customer is required to unlock or move funds.
Cryptoasset exchanges	Venues facilitating the purchase or selling of cryptoassets, either in exchange for fiat currencies or other cryptoassets. . • centralised: Exchange operator controls matching, clearing, and settlement. • peer-to-Peer: For clearing and settlement, the exchange operator connects buyers with sellers. • decentralised: No central operator required, instead all processes are directly executed on and by the DLT system.
Distributed Ledger Technology	Distributed Ledger Technology (DLT) is a type of technology that enables the sharing and updating of records in a distributed and decentralised way.

[1] *the above glossary provides definitions for the purpose of this consultation only*

	There are many different types of DLT platforms, and they usually combine elements of four common features: • **data distribution**: Many participants can keep a copy of the same ledger, and are may be able to read and access the data • **decentralisation of control**: Many participants can update the ledger, subject to agreed processes and controls • **use of cryptography**: Cryptography may be used to identify and authenticate approved participants, confirm data records, and facilitate consensus with regard to ledger alterations. The use of this technology is not unique to DLT • **programmability**: Computer-coded automation (such as smart contracts) can automatically execute transactions when certain, pre-agreed conditions are met, such as triggering periodical interest payments • **programmability/automation**: Computer-coded automation (such as smart contracts) can automatically implement the terms of an agreement, such as automatically triggering interest payments on a bond. There is no standard definition or form of DLT. The specific combination of these features depends on what a particular DLT platform is being used for and the design choices made by developers.
Blockchain	A particular type of distributed ledger, which refers to a specific way of structuring data on a DLT platform by cryptographically linking groups of records ("blocks") in an ever-growing "chain". See also definition for Distributed Ledger Technology (DLT).
Stablecoin	Referred to in this consultation as "stable tokens". These are an evolution of cryptoassets, which are designed to minimise volatility in value. Stablecoins aim to maintain stability in their price, typically in relation to a stable asset such as fiat currency. There are two types of stablecoin: **asset backed**: backed by collateral in the form of an asset, or a basket of assets, such as gold or a fiat currency **algorithmic**: a coin programmed to regulate issuance and redemption to match supply and demand. See the consultation document for elaboration on different types of stablecoin.

Timeline of recent and ongoing workstreams